ABSTRACT OF DISCLOSURE

A precision non-symmetrical L-shape waveguide end-launching probe for launching microwave signals in both vertical and horizontal polarizations is disclosed. The L-shape waveguide probe is in a form of thin plate, has a first arm and a second arm, and is precisely fabricated and attached to one end of the central metal pin of a feedthrough. The feedthrough is installed to an aperture formed in a major wall of the universal conductive housing to achieve hermetic sealing. The L-shape waveguide probe is aligned by means of a specially designed alignment tool so that long axis of the second arm is always perpendicular to the broad walls of the output waveguide, which is mounted to the universal housing with the broad walls of the output waveguide either horizontally or vertically. Hence, in this invention, an end-launching arrangement using the L-shape probes that could yield a flexible waveguide interface either in horizontal polarization or vertical polarization is provided. The impedance matching and frequency bandwidth may be adjusted by controlling dimensions and positions of the L-shape probe. A plurality of the thin plate L-shape waveguide probes is fabricated by a micro lithography and etching method to ensure reproducibility and reliability. By incorporating with an impedance transformation section having a slot, broad band performance is achieved using the L-shape waveguide probe.